REMARKS

The Office Action dated December 4, 2007, has been received and carefully noted. The above amendments and the following remarks are being submitted as a full and complete response thereto. Claims 1 and 8 are pending in this application. By this Amendment, claim 1 is amended and claims 3-7 are cancelled without prejudice to or disclaimer of the subject matter disclosed therein. Support for the amendment to claim 1 can be found in the Drawings at, for example, Figure 4, and its accompanying description in the Specification. No new matter has been added. Reconsideration of the application is respectfully requested.

The Office Action objects to the Drawings because features of the invention are allegedly not specified in the claims. The cancellation of claims 3-7 renders the objection to the Drawings moot. Accordingly, withdrawal of the objection to the Drawings is respectfully requested.

The Office Action rejects claims 5-7 under 35 U.S.C. § 112, second paragraph. The cancellation of claims 5-7 renders their rejection moot. Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. § 112, second paragraph, is respectfully requested.

The Office Action rejects claims 1 and 3-4 under 35 U.S.C. § 103(a) as being obvious over Kitamura et al. (U.S. Patent Application Publication No. 2002/0063175) (Kitamura '175); and claims 5-7 under 35 U.S.C. § 103(a) as being obvious over Kitamura '175 in view of Kitamura '976 (U.S. Patent Application Publication

No. 2004/0050976). The cancellation of claims 3-7 renders their rejections moot. With respect to remaining claim 1, the rejection is respectfully traversed.

In particular, the above-identified application claims a fuel injection valve that includes a valve assembly having a valve portion, a valve seat member, an injection plate, a radially extending and annular fuel diffusion chamber and a plurality of fuel injection holes that are bored in the injector plate so as to be radially outwardly separated from the valve seat hole, wherein an annular corner is formed to connect between the base of the fuel collecting chamber and an inner peripheral face of the valve seat hole, the annular corner being given a tapered or arc-shaped chamfer, and wherein the diffusion chamber is defined by an annular depression formed in a front end face of the valve seat member, wherein the fuel diffusion chamber is flat and thin relative to the length of the valve seat hole so that the flow of fuel spreads radially at high speed in film form in the fuel diffusion chamber and is detached from an inner peripheral wall of the fuel injection holes, as recited in amended claim 1.

Kitamura '175 teaches a fuel injection valve that includes a valve seat member having a valve bore, and an injector plate coupled to an outer end face of the valve seat member (Abstract). Kitamura '175 also teaches, with reference to Figure 8, that the outer walls of the diffusion chamber 41 are vertical and form a 90° angle with the outer surface of the injector plate 10, and are thus not given a tapered or arc-shaped chamfer, as recited in amended claim 1.

The Office Action admits that Kitamura '175 fails to disclose or suggest that the height of a section of the fuel diffusion chamber that the fuel injection holes face

is 20 to 100 μm, but argues that it would have been obvious to discover the optimum or workable range (Office Action, page 6, lines 7-11). However, the Office Action does not provide any motivation for Kitamura '175 to optimize the height of a section of the fuel diffusion chamber. MPEP § 2144.05, Chapter III, clearly states that "the law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims," and that "a particular parameter must first be recognized as a result effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation" (emphasis added). Kitamura '175 does not teach that the fuel diffusion chamber must be flat and thin compared with the length of the valve seat hole so that the flow of fuel spreads radially at high speed in film form in the fuel diffusion chamber, as recited in amended claim 1. Kitamura '175 also does not identify spreading the fuel radially at high speed in film form as a result effective variable that would motivate the optimization of the height of the fuel diffusion chamber. Accordingly, because Kitamura '175 fails to identify the height of the fuel diffusion chamber as a result effective variable, there is no motivation to modify the height of the fuel diffusion chamber in Kitamura '175 to arrive at the claimed invention.

Kitamura '175 also fails to disclose or suggest that an annual depression is formed in the valve seat member between the downstream end of the valve seat and the upstream end of the valve seat hole so as to provide a connection therebetween, that a fuel collecting chamber is defined by the depression and a front end face of the

valve portion of the valve assembly, and that the fuel collecting chamber has a base of conical shape, as recited in amended claim 1.

For at least the reasons above, Kitamura '175 fails to disclose, suggest or render obvious all of the features of amended claim 1. Accordingly, amended claim 1 is patentable over Kitamura '175.

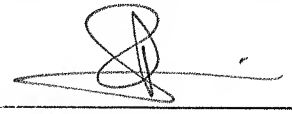
Kitamura '976 teaches a fuel injection valve that includes a flat fuel diffusion chamber provided between a valve seat member and an injector plate to widen radially outwards from an outer end edge of a valve seat bore (Abstract), and fails to cure the above-discussed deficiencies in Kitamura '175 in disclosing or rendering obvious the features of amended claim 1.

Thus, amended claim 1 is patentable over the applied references. Claim 8, at least for its dependence on patentable claim 1, and for its added features, is also patentable over the applied references. Thus, claims 1 and 8 are patentable, and withdrawal of the rejections of the claims under 35 U.S.C. § 103(a) is respectfully requested.

Should the Examiner determine that any further action is necessary to place this application into better form, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, referencing Attorney Dkt. No. **107348-00575**.

Respectfully submitted,



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Attachment: Petition for Extension of Time (three months)